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## Notes on Brazilian Caecilians

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A small collection of caecilians from Duke University, sent to me by Dr. Joseph R. Bailey, contains four specimens representing three species. Two species are examples of rare, recently described forms. The third is a well-known species of wide distribution. All seem worthy of comment. I have also examined a specimen of the recently described *Nectocaecilia ludigesi* Taylor, and include it here also.

### *Siphonops paulensis* Boettger

(Fig. 1)

*Siphonops paulensis* Boettger, 1892, Katalog der Batrachier-Sammlung in Museum der Senckenbergischen Naturforschenden Gesellschaft, pp. 62-63 (type-locality São Paulo, Brasil).

The specimen, Duke Univ. No. 9628 from Barra Bonita, São Paulo measures (in mm) 291 in length, body width about 25, head width 16, terminal "shield" width 20, and a circumference of 82. The length divided by width is approximately 23.6. The primary folds are 104, the vertebrae 108 or 109. The color is a typical dark bluish slate, each fold marked laterally and ventrally with white lines which on the back become dulled and greatly narrowed so that they are not or scarcely discernible. Anal glands are present (♂).

This, I believe, is the largest known specimen of this species.

A smaller specimen, Duke Univ. No. A 9629, is from Jarimu, near Jundiáí, São Paulo. This has 109 primary folds, and a length of 251 mm.

The range of this species is chiefly in eastern and southeastern Brasil. Specimens are known from the States of Rio Grande do Norte, Bahia, Minas, Gerais, Espírito Santo, Guanabara, São Paulo, Rio Grande do Sul, Southern Goiás and southern Mato Grosso; also from northern Argentina, Paraguay and Bolivia.

Specimens from Goiás seemingly have the lowest number of primary folds, the four specimens examined having counts of only 101-104. The known range of counts elsewhere is 104-119 folds.

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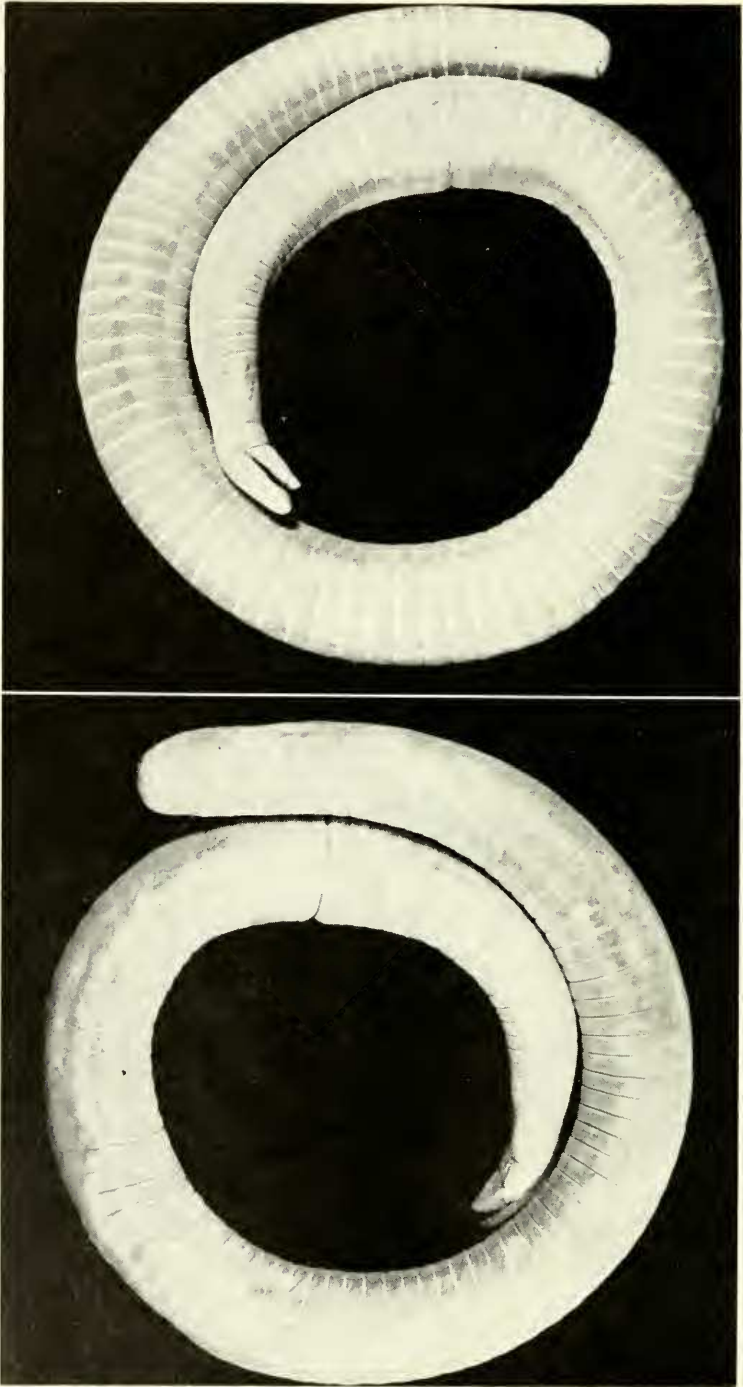


FIG. 1. *Siphonops paulensis* BOETTGER, Duke Univ. No. A 9628, Barra Bonita, São Paulo, Brasil. Total length, 291 mm; body width, greatest, 25 mm.

This species, like *S. annulatus*, is adapted to relatively dry situations, and like that species has a wide distribution. However, it appears to be confined to the drainage areas of the Río Paraná and the short coastal rivers emptying into the Atlantic, while *annulatus* has a far wider range, extending into western and northern South America.

### *Osaecilia hypereumeces* Taylor

*Osaecilia hypereumeces* Taylor, 1968, The Caecilians of the World, pp. 607-611, figs. 331-334 (type-locality, Joinville, Santa Catarina, Brasil).

This specimen, Duke Univ. No. A 9627 (locality unknown), the second known of this species, has the following characters:

The eye is present under bone, the tentacle almost directly below the nostril, very much closer to nostril than to eye. The scales begin near the middle of the body, only a few in a fold laterally. More posteriorly there is a single row of scales around the body with occasionally one or more extra scales appearing dorsolaterally. The elongate glandules lying above the scales seemingly are more numerous than the scales.

Its counts and measurements are as follows; numbers in parentheses refer to the type: The primary folds, 208 (226) are incomplete above and below except in the posterior part of the body. There are 21 (4) secondaries of which 6 are complete. There are four dental series (the tooth counts, if not correct, are close approximations): premaxillary-maxillary, 10-1-10 (8-1-7); prevo-meropalatine, 11-1-11 (10-1-9); dentary, 10-10 (9-9); splenial, 2-2 (3-3).

*Measurements in mm.* Total length (body broken), approximately 400 (640); body width, 5 (7); snout projects 1.8 (1.9); tentacle to eye, 2.6; tentacle to nostril 1.1 (1.0); tip of snout to angle of jaw, 5.2; tip of snout to first nuchal groove, 7.2, to second groove, 9.1, to third, 11.5 (all lateral measurements); width in length, approximately 80 (91) times.

*Remarks.* The head is whitish to light brown from the eyes forward to near the tip of the snout, with light areas about nostrils and tentacles. A cream spot is present posterior to the brown area. A pair of brownish spots is behind and above jaw angle, in front of which is an indefinite light lateral streak. The edge of the upper lip is light with a vaguely darker streak above. The entire lower jaw is whitish or cream but with a fine scattering of darker pigment. The anterior 10 cm of the body is an ill-defined violet brown, the venter a dull cream with a thin scattering of pigment. Posterior to this, the body is variegated vaguely (suggested in the figure of type, no. 331, *loc. cit.*) and brown in color. In practically all other characters this specimen agrees with the type.

The differences in the count of primaries and secondaries from those of the type are not greater than has been reported in several species of *Caecilia*.

An x-ray picture of this specimen prepared by Dr. Joseph Bailey shows 214 vertebrae. The subdermal scales are scattered and difficult to find in the

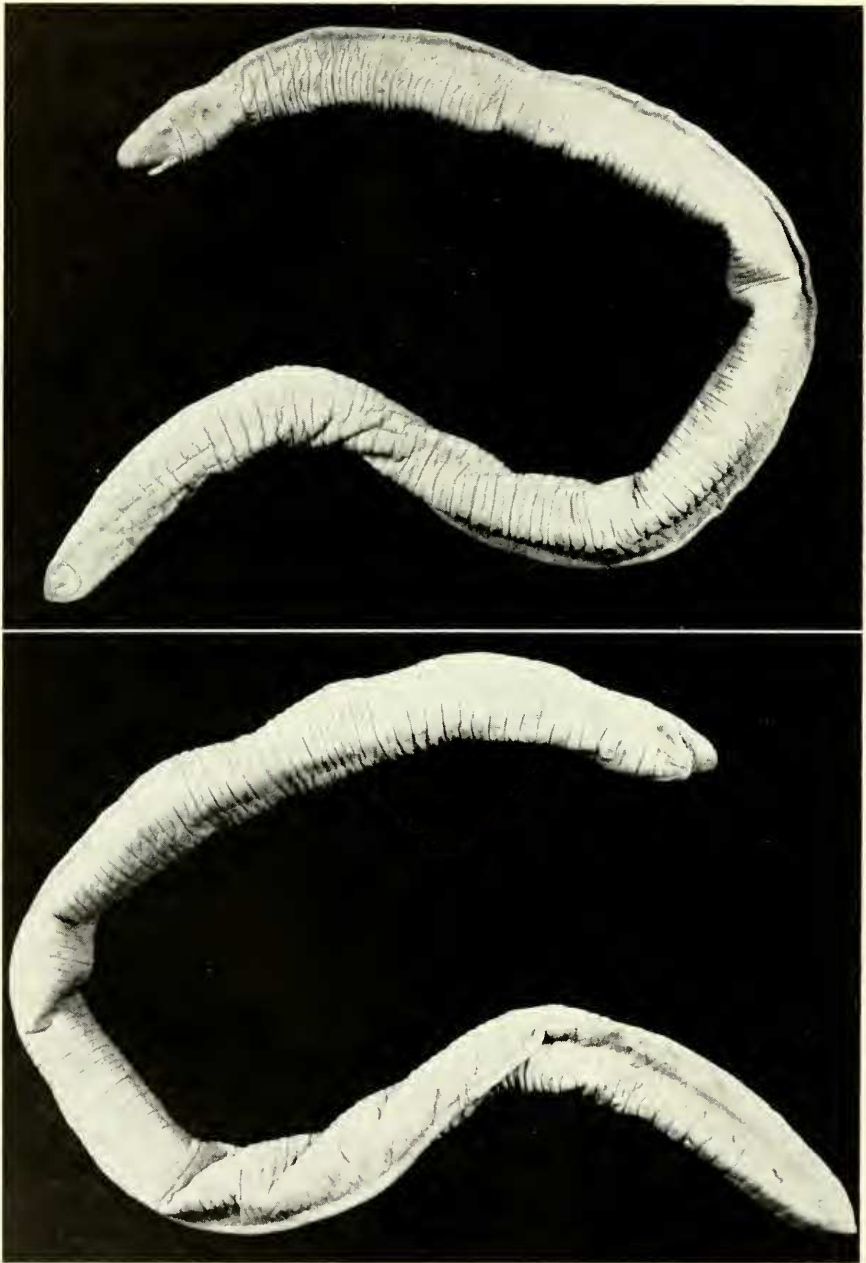


FIG. 2. *Typhlonectes anguillaformis* Taylor. Duke Univ. No. A 9630. "Probably vicinity of Manaus," Brasil. Total length, 372 mm; body width, approximately 19 mm.

thin connective tissue under the skin. They are small, circular and nearly transparent, usually less than .5 mm in diameter. Posteriorly some of the scales in the grooves are vaguely visible externally along sides.

### **Typhlonectes anguillaformis** Taylor

(Fig. 2)

*Typhlonectes anguillaformis* Taylor, 1968, *The Caecilians of the World*, pp. 235-238, figs. 117-120 (type-locality unknown).

This specimen, Duke Univ. No. A 9630, is in good condition except that a portion of the side of the snout has been dissected. The color has become almost uniform light brown; presumably it originally was some shade of slate or violet. The type specimens are somewhat grayish but I believe that this is not the color in life, since when the loose epidermis was removed, the color below appeared violet-brown. Since this is the third known specimen, I am recording the following data:

The head is short and somewhat flattened. The body length is 373 mm, its width approximately 19 mm, the head width, 13.6 mm. The width in length is approximately 19.6 times. The minute tentacle is close (0.7 mm) behind the large nostril. There are 82 primary folds and no true secondaries. Most folds have at least one transverse crease or wrinkle. There is an unsegmented terminal "shield," triangular in cross section. The subterminal area is bounded laterally by two slightly sinuous ridges extending forward for about 3 cm. These are slightly more compressed than is depicted in the figure of the type (Taylor, *loc. cit.*, fig. 119).

The dorsal skinfold (fin) begins at the second collar and continues to the terminus. At first it is about 2 mm high, becoming gradually higher posteriorly, and reaching a height of 6-7 mm on the last 2 cm of the body. The tentacular opening is minute and is not evident in the type figure (*loc. cit.*, fig. 119).

In practically all other characters the specimen agrees with the type.

### **Nectocaecilia ladigesi** Taylor

(Fig. 3)

*Nectocaecilia ladigesi* Taylor, 1968, *Caecilians of the World*, pp. 275-279, figs. 139-142 (type-locality, Rio Moju near its mouth, [junction with the Tocantins] near Belém, Brasil).

A recent acquisition of the U.S. National Museum (No. 154035) is a specimen of the above species, collected by Dr. Philip Humphrey in 1964 at Utinga, Belém, Brasil. Data on the specimen are as follows; numbers in parentheses are those of the type\*; measurements are in mm: length, 389 (416); head width, 12 (13); neck width near the head, 8.8; greatest body width, 14 (9.5); height of body, 18.5 (17); width at vent, 5.3. There are 92 (97) vertebrae.

\* In the type description, p. 277, line 4, for "6" read "9.5"; p. 279, line 12, for "eye" read "tentacle."

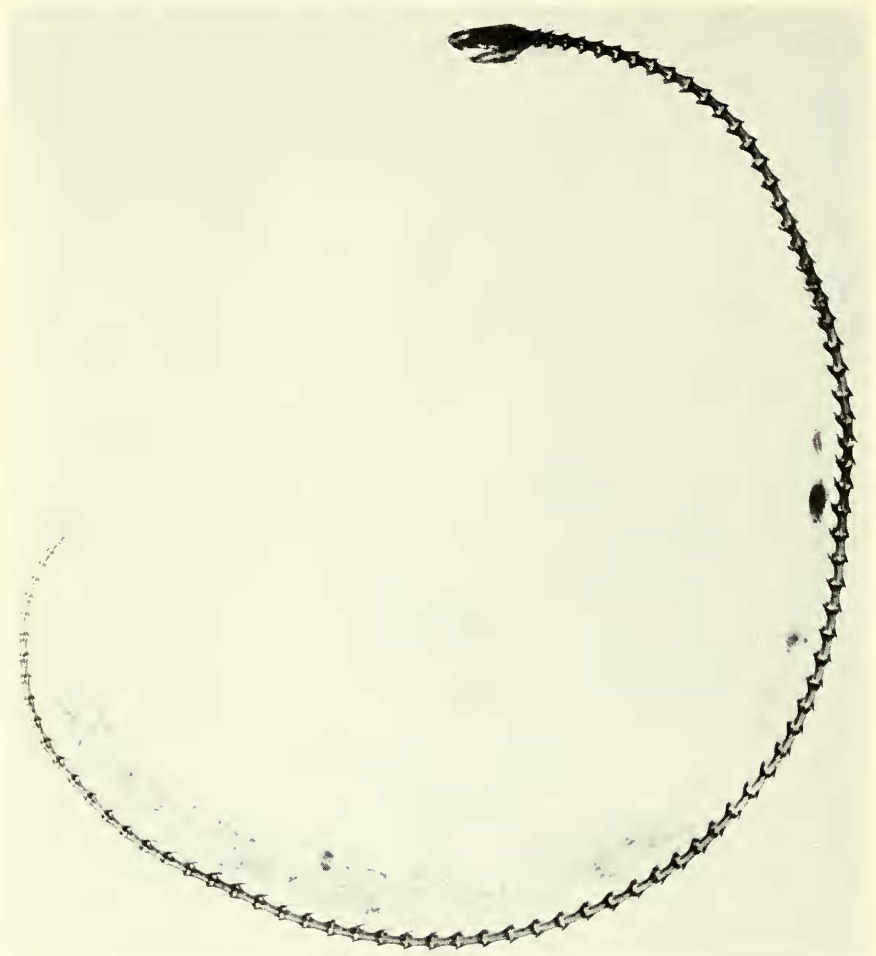


FIG. 3. *Nectocaecilia ladiges* Taylor. USNM No. 154085, Rio Moju near its mouth, near Belém, Brasil. X-ray showing 92 vertebrae. Total length 389 mm.

The counts of the dental series are close approximations of the actual tooth numbers: premaxillary-maxillary, 20-1-24 (19-1-20); prevomeropalatine; 20-1-20 (20-1-20); dentary, 19-18 (17-16); splenial, 6-7 (5-5). The skin is very smooth, the color nearly uniform brownish slate. The denticles surrounding the vent (11 in number) are almost identical in arrangement and proportionate size to those of the type.

I am under obligation to Mr. R. A. Tuck, Jr. of the U.S. National Museum for an x-ray (Fig. 3) and 6 photographs of this, the second known specimen of this aquatic species.